

WHITMAN COLLEGE TRENCHING AND SHORING PLAN

Purpose:

This is a statement of official college policy to establish the process for compliance with safety standards as stated in the Washington State Administrative Code (WAC).

Scope:

The Trenching and Shoring Plan applies to all Whitman College staff involved in excavation operations on property owned and/or operated by the college. Contractors involved in excavation operations on college property are required to comply with all applicable provisions of state and federal regulations.

Policy:

The college is dedicated to providing safe work facilities for all its staff and students, and complying with federal and state occupational safety standards. Administrators and staff share a responsibility to reduce the hazards associated with excavations.

Duties and Responsibilities

Safety Coordinator shall:

1. Prepare the Trenching and Shoring Plan with periodic review and revisions as needed.
2. Coordinate training of those who may be involved in excavations.
3. Investigate and document all reported accidents and/or near-miss accidents that are directly or indirectly related to trenching.

Physical Plant Director shall:

1. Designate a supervisor to be in charge of each excavation.
2. Assure necessary resources are made available to the designated supervisor to allow for compliance with this plan.

Maintenance Supervisor shall:

1. Implement all provisions of the Trenching and Shoring Plan for work areas under their control.
2. Receive training for "Competent Person" for trenching as defined by WAC.
3. Act as the "Competent Person" for excavation sites under their control.
4. Assure that the equipment necessary to complete an excavation safely is available and in good condition.
5. Assure that all underground utility installations such as sewer, telephone, fuel tanks, electric, gas and water lines are located and marked before excavation begins.
6. Conducts soil tests to determine soil type.

7. Ensure that underground installations are protected, supported or removed while the excavation is open.
8. Ensure worker protection and compliance with other applicable safety plans, programs and guidelines.
9. Ensure protection of staff, students and the public by using proper barricades.
10. Conduct daily inspections/evaluations of excavations and the adjacent areas for evidence of situations that could result in possible cave-ins, hazardous atmospheres, or other hazardous conditions.

Employees shall:

1. Complete all safety training requirements and request further instruction of unclear on any part of the Trenching and Shoring Plan
2. Use appropriate safety and personal protective equipment (PPE).
3. Adhere to the requirements of the Trenching and Shoring Plan.
4. Report all work place injuries and unsafe conditions to the supervisor or the Safety Coordinator.

Information and training:

All personnel involved in work conducted in or around an excavation shall be trained in the requirements of this plan. Training shall be performed before anyone is assigned duties in an excavation. Contact the Safety Coordinator at ext. 5946 for information on training programs.

Competent Persons – The Maintenance Supervisor, the Safety Coordinator and the Project Manager will attend “Competent Person” training conducted by a state approved training source.

Excavation Workers – Any personnel who perform work in excavations shall comply with the requirements of this plan and shall receive appropriate training that includes at minimum:

1. Safe work practices that must be followed during work in excavations
2. The use of personal protective equipment (PPE) that will typically be required during work in excavations, including but not limited to safety shoes, hardhats, and fall protection when required.
3. Procedures to be followed if a hazardous atmosphere exists or could reasonably be expected to develop during work in an excavation
4. Emergency and non-entry rescue methods or procedures for calling rescue services.

Retraining will be performed whenever work site inspections conducted by the Maintenance Supervisor, the Safety Coordinator or WISHA indicate that a worker does not have the necessary knowledge or skills to safely work in or around excavations. Training records will be maintained by the Safety Coordinator.

Excavation Procedures:

Utilities

Prior to start of excavation the site shall be inspected to determine what safety measures are to be taken. Underground utilities shall be located and clearly marked. Precautions shall be taken to protect the utilities during excavation. Excavation shall be done in a manner that does not endanger the underground installations or those engaged in the work. Utilities left in place shall be protected by barricades, shoring, suspension or other means as necessary.

Stability of Adjacent Structures

Precautions shall be taken as needed to protect workers, nearby buildings or other structures. A Registered Professional Engineer should evaluate these structures and recommend precautions such as shoring, bracing, or underpinning. Recommendations of the engineer shall be carried out. Plans outlining the design of precautions approved by the engineer shall be maintained on site while the work is in progress.

Protection of the Public

Barricades, walkways, lighting and signs shall be provided for the protection of the public prior to the start of excavation operations. Guardrails, fences or barricades shall be provided adjacent to walkways, driveways and other pedestrian or vehicle thoroughfares.

Protection of Workers in Excavations

All workers shall be protected from hazards that may arise during excavation work.

1. Stairs, ladders, ramps or other safe means of egress shall be provided when workers enter excavations 4 feet or more in depth. Two or more means of egress will be provided in any trench 20 feet or more in length. No worker shall be required to travel more than 25 lateral feet to an exit.
2. Employees exposed to vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.
3. No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by spillage or falling materials.
4. A warning system such as barricades, hand or mechanical signals, or stop logs shall be used when mobile equipment is operated next to, or approaches, the edge of an excavation and the operator does not have a clear and direct view of the edge or the excavation.
5. Employees shall be protected from excavated or other materials and equipment that could pose a hazard by falling or rolling into the excavation. Protections shall be provided by placing and keeping such

materials or equipment at least 2 feet from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into the excavation.

6. Employees working at the edge of an excavation 6 feet or more in depth shall be protected from falling by guardrail systems, fences, barricades or other approved means.

Hazardous Atmosphere and Confined Spaces

If there is a possibility that a trench or excavation could contain a hazardous atmosphere, the Maintenance Supervisor shall require atmospheric testing prior to worker entry. To protect workers from hazardous atmospheres adequate precautions and testing shall be conducted in accordance with *WAC 296-155* and the Whitman College Confined Space and Respiratory Protection Program.

Personal Protective Equipment (PPE)

All workers shall wear all required protective equipment including but not limited to, hardhats, safety eye wear, gloves, hearing protection and fall protection. PPE shall be furnished by the college. Further, employees working in excavations should wear safety footwear meeting ANSI standards.

Additional required protective equipment shall be determined by a job hazard assessment conducted by the Maintenance Supervisor and/or the Safety Coordinator.

Walkways and Guardrails

Walkways shall be provided where workers or equipment are allowed to cross over excavations. Guardrails shall be provided on walkways used by the general public regardless of the height above the excavation. Guardrails shall be provided on walkways used only by on-site personnel if the walkway is 4 feet or more above lower levels. If workers pass below a walkway, then guardrails and toeboards shall be provided.

Hazards Associated with Water Accumulations

Employees shall not work in excavations in which there is accumulated or accumulating water, unless adequate precautions have been taken to protect employees against hazards posed by water accumulation. The precautions necessary to protect employees adequately vary with each situation, but could include:

1. special support or shield systems to protect from cave-ins,
2. water removal to control the level of accumulating water, or
3. use of a safety harness and lifeline

If water is controlled or prevented from accumulating by the use of water removal equipment, the removal operation must be monitored by a competent person. Excavations shall be inspected by a competent person after each rain and before anyone is permitted to re-enter the excavation.

Inspections

Daily inspections of the excavation, adjacent area and all protective systems for evidence of a situation that could result in a cave-in, failure of protective system, hazardous atmospheres, or other hazardous conditions. Inspections shall be conducted prior to the start of work and as needed throughout the day. If a hazardous condition is found, exposed workers shall be removed from the area until the hazardous condition is corrected or precautions have been taken to assure worker safety.

Requirements for Protective Systems (Shoring, Benching, Sloping)

All employees working in an excavation shall be protected from cave-ins by an adequate protective system designed in accordance with subsections (2) or (3) of WAC 296-155-657 except when, excavations are made entirely in stable rock or excavations are less than 4 feet in depth and examination of the ground by a competent person provides no indication of a potential cave-in.

Types of Protective Systems

The competent person will determine the type of protective system that is most suitable for the particular job site, taking into consideration soil type and surrounding structures. Sloping and benching must meet the requirements found in WAC 296-155-66403 *Appendix B-Sloping and Benching*.

Shoring or trench boxes will be used whenever the location or depth of the trench makes sloping impractical. Shoring and trench boxes must meet the requirements found in WAC 296-155-66405 *through 66411 Appendices C through F*.

NOTE: All excavations more than 20 feet in depth must be approved by a Registered Professional Engineer.

Whitman College employees shall not enter an excavation that does not comply with state and federal regulations.

ACKNOWLEDGEMENT OF TRAINING

I received training in safety practices for trenching and shoring. As a part of that training, I received a copy of, and am familiar with, Whitman College's "Trenching and Shoring Plan."

Employee's Signature

Date

Trainer's Signature

Date